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The Evolution of the Huhner Test

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EDITORIALS

Cancer Research, Industrial Style

IT remains to be seen whether the shift in cancer research from university methods to industrial technique (organization, planning, competent direction) will be effective. The Sloan-Kettering Institute will spend its $4,000,000 study of normal and abnormal growth "in accordance with industrial principles." Waldemar Kaempffert now goes so far as to speak of "the kind of empiricism and floundering that passes for cancer research in laboratories."

The development of the atomic bomb exemplified the industrial approach to a fundamental problem. But $2,000,000,000 was also available.

The Great Ptomaine Myth

UNTIL about a quarter of a century ago the ptomaine reigned supreme as the cause of food poisoning usually manifesting itself as an acute gastro-enteritis.

After the real causes of food infection (salmonellosis) and food intoxication (botulism) became better known the ptomaine myth persisted and is still kicking around, as doubtless the Hitler myth will continue to bob up a quarter of a century from now.

Of course there are ptomaines. They are late cleavage products in the process of decay of animal and vegetable proteins, degradation substances which even in relatively large amounts will not produce gastro-enteritis. And in any case these basic alkaloids cannot be formed in food until it is far too putrid to eat.

As a matter of fact the human family long ago developed a resistance to ptomaines. It learned to like "high" or "gamy" food in ante-refrigeration days, and this liking is frequently evident today. Moreover, such food is eaten by its numerous votaries with both impunity and immunity.

Fictional Medicine

THE idea of using pathogenic bacteria in warfare crops up now and then and is always ruled out by the experts as a futile dream. This relegates it to one school of fictionists.

But now H. F. Heard, gifted English author of short mystery stories, in his Wingless Victory (a tale in The Great Fog and Other Stories, the Vanguard Press, 1944) invokes another field of medicine. A race of giant penguins living near the South Pole and superior in attainments to men guard themselves against possible intrusion by means of a ray of a particular wave length directed across the rim of the great volcanic crater constituting the approach to the penguins' domain. Anyone entering the sphere of this ray's influence promptly falls to the ground with his semicircular canals all out of gear, in other words with Ménière's syndrome. However, the moment the barrage is raised, the victim of vertigo recovers. No permanent damage is done. Presumably he calls off his invasion and returns to his base a wiser if not a better man.

Heard's penguins prove the superiority of their civilization by not resorting—as they easily could—to block busters, robot planes, mines, and atomic bombs. Perhaps when the human race reaches this state of culture it will wage war (if it wages war at all) with something like this ray of the penguins, with nothing resulting worse than contests decided by the Ménière syndrome inflicted by the side with the most skillful "battle technicians," marking the end of the present era of carnage and gore beside which the Aztec's bloody sacrifice of youth was a refined ritual.

Nontuberculous Pulmonary Calcification

NOT all pulmonary calcification is tuberculous. Carroll E. Palmer (*Pub-*

lic Health Reports 60:513, May 11, 1945) has recorded the results of tuberculin and histoplasmin testing in thousands of nurses, the two tests being given at the same time and read at 48 hours. A high proportion of the group found to have pulmonary calcification reacted to histoplasmin, tuberculin or both, but many more reacted to histoplasmin than to tuberculin. Or the nurses who reacted only to the latter, 10.4 per cent showed pulmonary calcification, while of those reacting only to histoplasmin, 31.1 per cent showed calcification. A very low rate of pulmonary calcification (1.2 per cent) was found among the large group of nurses who were negative to both tests.

It would seem, in the cautiously expressed opinion of the National Tuberculosis Association, that mild, perhaps subclinical, infection by the protozoan *Histoplasma capsulatum* accounts for a high proportion of pulmonary calcification, especially in East Central States. "The number of persons attacked may total several million."

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Results of Inoculation Against Tuberculosis

RESULTS of a ten year study in Chicago to prove the value of inoculating children against tuberculosis and results of a similar program in New York City, reaching back sixteen years, were reported November 7 at Cornell University Medical College. The papers were presented at the 35th clinical session on chronic pulmonary diseases of the Tuberculosis Sanatorium Conference of Metropolitan New York in cooperation with the New York Tuberculosis and Health Association. Records were presented by the Chicago experimenters to show that vaccination with BCG in the first 7 years of life is of value in preventing tuberculosis. The New York doctor reporting declared that routine vaccination with BCG of children from tuberculous homes is less advantageous than removal of tuberculous subjects from such homes. BCG is the product resulting from a method of treating live tubercle bacilli to make them less virulent, developed by the French scientists Calmette and Guerin.

Further Blue Cross Coverage

BLUE CROSS subscribers who change jobs may continue their coverage of hospital expense by transferring to a group at their new place of employment or by paying dues directly to their original Blue Cross plan. Permission to continue Blue Cross protection upon leaving one's place of employment is a valuable privilege of these 85 non-profit community-sponsored hospital service plans.

Army Medical Library Honorary Consultants

THE second annual meeting of Honorary Consultants to the Army Medical Library was held recently in Cleveland, Ohio, for the purpose of electing officers. Among those attending were: Major General George F. Lull, Deputy Surgeon General; Colonel Harold W. Jones, former director of the Army Medical Library, retired; and Colonel Leon L. Gardner, present director of the Army Medical Library. The following officers were elected: President, Dr. John F. Fulton; Vice-President, Dr. Chauncey D. Leake; Secretary-Treasurer, Colonel Harold W. Jones. Major General Lull was elected on the Executive Committee. The action taken by Congress toward erecting a new building for the Library was one of the main topics of discussion.

Directorship of the Sugar Research Foundation

DR. RALPH F. PHILLIPS has been appointed Assistant Scientific Director of the Sugar Research Foundation. Dr. Phillips, who was formerly Assistant Professor of organic chemistry at the University of Utah, will aid Dr. Robert C. Hockett, Scientific Director of the Foundation, in the study of the role of sugar in the diet and as a chemical raw material. More than $415,875 in grants have been awarded by the Sugar Research Foundation to leading universities and technological institutes in this country and Canada for research.

THE EVOLUTION OF THE HUHNER TEST

Max Huhner, M.D., New York, N. Y.

THE Huhner Test, which I shall describe in detail later on, is a test for the diagnosis of sterility which I devised over forty years ago. In brief, it consists in examining the female genitals after coitus for the spermatozoa ejaculated into the wife by the husband at the previous coitus. At the time I devised this test there were no books or pamphlets on this subject and I had to rely on my own investigations as to the behavior of spermatozoa in normal and pathological cases at various times after coitus. These investigations covered a period of about six years and were made by myself in my office in hundreds of cases.

This was the first attempt to determine the behavior of spermatozoa in the female genitals made in any country of the world. It is true that Sims in about four cases, I believe, and Haussmann in about twenty-six cases, reported on the finding of spermatozoa in the female genitals, but these were but accidental finds and mine was the very first attempt to make a sytematic study and investigation in a large number of cases.

At the beginning some doubted the value of the test, and a few even ridiculed it, but I have the satisfaction of knowing that it is now used by eminent gynecologists all over the world.

When I first described the test in my book "Sterility in the Male and Female and its Treatment" in 1913, I called it "The Cervix Test" but later elaborated on this test in a paper read at a meeting of the New York Urological Association and published in the *Urologic and Cutaneous Review* for November, 1914 and then called it "The Spermatozoa Test". This paper was widely quoted by eminent gynecologists of the time, notably by Reynolds, who in an address on sterility read in 1915 before the section of Obstetrics, Gynecology and Abdominal Surgery at the Sixty-fifth annual session of the American Medical Association in San Francisco devoted considerable space to a description of the test and first called it "The Huhner Test."

IN order to understand the evolution and value of the Huhner Test, it is necessary to look back on the diagnosis and treatment of sterility by gynecologists both here and in Europe, before I came out with my observations on sterility in my book which was published in *1913*.

I will now show how vague and obscure the entire subject was by extracts from the papers of the leading experts. Matthew Duncan sums up the etiology in the obscure phrase "deficient reproductive energy," and Kisch, in disagreeing with this statement, says "sterility is an imperfection devoid of all perceptible, measurable characteristics."

Again, there was a continued and warm discussion for many years between those who attributed most cases of sterility to *mechanical* causes, and those who opposed this view. Prominent among the former was the great gynecologist H. Marion Sims, who made the following statement: "A conical cervix is found in 85 per cent of sterility due to the female. If the cervix protrudes one-half inch into the vagina sterility is very probable; if one inch, it is almost positive to follow; if more than an inch it must cause sterility. Sterility is also bound to occur if the cervix does not project at all into the vagina." He also gives statistics in which he found in 250 sterile married women, 103 with anteversion, while in 255 non-sterile married women, he found only 61 cases of anteversion and therefore concludes that anteversion is a cause of sterility.

In my book I discuss the above statistics as follows: "It appears to me that an error was made in that he examined his non-sterility cases after they had given birth to children, and many of these patients may have had anteversions which were changed after childbirth to retroversions. He might

claim with equal justice that retroversion favored pregnancy, because he found so many more cases of it in non-sterile women than in sterile women. As stated before, if we examine single girls, or married women shortly after marriage, we will find that in the large majority of cases the uterus is anteflexed or anteverted or both. I think this is the normal condition, whether the patient is later found to be sterile or not."

The theory upon which the mechanical etiology of sterility was based is that in certain positions of the uterus, it was supposed that the spermatozoa either could not reach the cervix at all during or shortly after coitus, or, having reached the cervix, they were unable to get into the fundus and parts beyond.

Kisch, one of the most prominent gynecologists of a generation ago, makes the following statement: "Displacements of the uterus (flexions and versions), and abnormalities in the cervix uteri, are among the conditions which lead to sterility by interfering with conjugation by preventing the necessary physical contact between the male and the female reproductive elements. The frequency with which these diseases give rise to sterility is, however, far from being so great as is commonly asserted by those who maintain a mechanical theory of conception."

On the other hand, among those who try to reason out theoretically the cause of sterility by the relationship of the penis to the cervix during coitus are Pajot, Beigel, Fritsch, and others. To quote Kisch again: "Pajot has devoted especial attention to the hindrances that are offered to the entrance of the spermatozoa by displacements of the cervix. In these cases, during coitus, the extremity of the glans penis is not in contact with the os uteri externum, but passes into a kind of cul-de-sac; in retroversion the posterior fornix; in anteversion, the anterior fornix; in lateral version the lateral fornix of the side opposed to that towards which the lower extremity of the cervix points."

Beigel remarks as follows: "Of the displacements of the uterus, the versions, anteversion, retroversion, and lateral version, have a more pronounced influence in hindering conception than the flexions; for, in the case of version of the uterus, the uterus moves as a whole round a horizontal axis, so that when the fundus moves in one direction, the portio vaginalis moves in the opposite. When the neck of the uterus is thus displaced, the tip of the glans penis fails during coitus to come into contact with the os uteri externum, as it normally should do, and passes into a vaginal cul-de-sac; in retroversion, the posterior fornix, in anteversion, the anterior fornix, and in lateral version the lateral fornix of the side opposite to that towards which the cervix uteri is directed. In high degrees of this malposition, the vaginal fornix covers up the os externum as with a valve."

Fritsch writes in the following terms regarding the difficulty with which impregnation is effected in women suffering from anteflexion: "In cases of anteflexion of the uterus, the vagina is remarkably long, the portio vaginalis often badly formed; the ejaculated semen flows away rapidly from the contracted vagina, without, perhaps, ever coming in contact with the portio vaginalis." He states "it is a fact, that women with anteversion conceive less readily than those with retroversion of the uterus (when this latter is moderate in degree); for in slighter degrees of retroversion, the axis of the uterus is a continuation of the axis of the vagina, so that the orifice of the male urethra and the os uteri externum will be in contact during coitus —more especially because in such cases, owing to the portio vaginalis being low in the pelvis, the vagina is short; in cases of anteversion, on the other hand, the cervix is high up, and the vagina is long and narrow."

Kisch likewise argues in the same strain as follows: "Sometimes we meet with abnormalities of the vagina — not strictly speaking morbid states — which, though they may not at first sight appear to be of much significance, yet suffice to render conception difficult, or even impossible. One of these conditions is extreme shortness of the vagina, leading to the formation of a 'poche copulatrice' (Courty) in which during coitus the semen is ejaculated at a distance from the os uteri externum;

another is excessive length and width of the vagina; another, some displacement of the vagina which diminishes the prospect that the semen will enter the cervical canal. Such vaginal false passages, 'fausses routes vaginales,' have been described more especially by Pajot as causes of sterility."

If we consider the various postures taken, and the various contortions and muscular movements gone through by both parties during coitus, we must realize that the penis must point at many different angles during the act; we must also recognize how various, probably, are the positions of the cervix during coitus, and after considering all this we can at once appreciate how ridiculous it is thus to reason out theoretically the relationship of the two, and the direction of the stream of semen at the moment of ejaculation. Clinical experience also shows the folly of such theoretical reasoning, for if we examine women who have given birth to one or more children, we will find among them a considerable number of cases of uterine displacements of every variety; but this will be discussed later on.

KISCH and Kehrer as well as other eminent gynecologists seem to have experienced the folly of such theoretical reasoning on the etiology of sterility. To quote Kisch, for instance: "However, as Kehrer insists, it may be one of the greatest difficulties in diagnosis—a difficulty not always to be resolved even when all the attendant circumstances have received the fullest and most painstaking consideration —to determine whether in any individual case an anomaly of the cervix, such as stenosis of the external os or of the whole cervical canal, is or is not to be regarded as a cause of sterility. When stenosis is extreme, there need be no two opinions about the matter; the difficulty is in cases lying somewhere between a moderate degree of contraction and the lower physiological limit of smallness. Every experienced gynecologist will have seen such cases as Kehrer describes, in which before marriage the os appeared extremely small, and yet soon after marriage the woman became pregnant. For this reason we are justified, with O. Johannsen, in reverting rather to the functional than to the anatomical conception of stenosis, and in maintaining that so long as the cervical canal is sufficiently large to permit the uterine secretions to flow freely away, any stenosis that may exist is devoid of pathological significance. Only when the outlet for the uterine secretions is insufficient, so that the uterine cavity becomes distended (as manifested by an elongation of the canal in the supravaginal portion of the uterus, and by various disorders, amongst others chronic endometritis), is the stenosis with its consecutive dilatation of the uterus a serious obstacle to conception. In such cases, the contractions of the uterus during coitus will not suffice to express the secretions it contains through the narrowed os, and the inevitable consequence of the incomplete evacuation of the uterus is that the aspiratory phase of the orgasm fails to occur."

Kisch finally sums up the difficulties of the subject in the following language: "How difficult it is, in a particular case, to determine whether the pathological anteflexion is the true obstacle to conception, or the antecedent parametritis posterior and the concomitant metritis and endometritis. How can we decide whether a retroflexion is the simple mechanical cause of sterility, whether the latter condition does not rather depend upon complicating perimetritis and oophoritis?"

Schroder, judging from clinical experience, recognizes the difference between theory and practice, and points out that "although sterility is common in cases of anteflexion, cases are yet seen in which, notwithstanding the existence of extreme anteflexion, conception occurs very speedily after marriage. The fact that in cases of anteflexion we have difficulty, not impossibility, of conception, explains how it is that of two women suffering from anteflexion of the same severity, one will readily become pregnant, whilst the other remains permanently barren."

HAVING shown from the above quotations the various theories that were held by the most eminent gynecologists

before the advent of the Huhner Test concerning the mechanical etiology of sterility, I will now cite the various theories that existed as to the effects of the genital secretions as factors in the production of sterility.

Reynolds had done some excellent work in studying the nature of the sexual secretions in the female and their treatment.

I have read the various articles published on this subject by Reynolds very carefully, and while I admire and appreciate the great amount of work and time the author has undoubtedly devoted to the subject, yet from a purely practical standpoint, I cannot see how, from his writings, he, or anyone else, can diagnose that the faulty secretions are the cause of the sterility in any particular case. For instance, under the caption "Methods of Clinical Diagnosis of the Secretions" he says: "The quantity, color, and consistency of the vaginal secretion is now noted and its reaction taken. The vaginal walls and the vaginal surface of the cervix are then carefully cleansed with dry cotton, no solution being used for fear of changing the reaction. The appearance of the cervical secretion is then noted either by spreading the lips apart by tension on the vaginal walls with the speculum or by compression of the cervical canal between the blades of the speculum or between the anterior blade of the speculum and a pledget of cotton pressed by forceps against the posterior aspect of the cervix. The drop of cervical secretion so brought to the os is then tested with litmus paper (the litmus may if necessary be passed into the cervical canal by the forceps but if this is done care must be taken not to excite bleeding, which will at once ensure a stronger alkaline reaction); the color of the vaginal and cervical mucous membrane is noted, etc."

We must agree with the author that pathological genital secretions are at times the cause of sterility, but I cannot conceive how anyone from the above description can say in any particular case that the sterility is caused by the secretions. We have all seen cases of marked so-called endometritis with large quantities of secretions looking like pus flowing out of the vagina and cervix, and yet such women are constantly becoming pregnant. Even the presence of an active gonorrhea does not necessarily prevent conception. And as for going by the reaction of the secretions, is it not an everyday occurrence that women use strong acid douches and acid suppositories for the purpose of preventing conception, and nevertheless the desired effect is not produced?

On the other hand I have reported cases where a pathological acid cervical secretion has been artificially made alkaline, by the use of alkaline douches, and the spermatozoa were killed despite that fact, showing that it was some other pathological condition of the secretion, entirely apart from the reaction, which was inimical to the vitality of the spermatozoa. We certainly agree with the author that diminished alkalinity or hyperacidity of the secretions will cause sterility, but I do maintain that neither from that factor alone, nor from the color, the quantity or consistency of the secretion can we, in any particular case, say that that factor is the cause of the sterility, for we also find the same condition in nonsterile cases. It is just here that the Huhner Test is of such great value. If we find that the spermatozoa remain alive in the cervix, then we know that the cervical secretion, no matter of what color, chemical composition or reaction, does no harm to the spermatozoa, and if we find live spermatozoa in the fundus uteri, we can likewise draw the same conclusion as to the uterine secretions, but all this will be discussed in detail later on.

ANOTHER condition, supposed by some to be a factor in the causation of sterility, and upon which Kisch lays great stress, is the sexual sensibility in women. In that connection, he says: "In our consideration of the various influences by which the contact of the ovum and spermatozoon may be prevented, the degree of sexual excitement experienced by the woman during the sexual act must not be overlooked, for this plays a part not to be underestimated, even though it is a matter on which it is difficult to obtain accurate information.

"It is extremely probable that an active participation on the part of the woman in

coitus has an important influence upon the attainment of fertilization, i.e., that sexual excitement in the woman is a link in the chain of conditions leading to conception. This excitement has a reflex influence, but the influence may be exercised in either (or both) of two ways: first, it may cause certain reflex changes in the cervical secretion, whereby the passage of the spermatozoa is facilitated; or, secondly, it may give rise to reflex changes in the vaginal portion of the cervix, to a rounding of the os uteri externum and a hardening of the consistency of the cervix (changes of an erectile nature), coupled with a slight descent of the uterus —changes which likewise favor the entrance of the semen into the uterine cavity. Theopold goes so far as to say that it is only women who experience erotic excitement who are capable of being impregnated."

I HAVE purposely quoted very extensively from the standard works of the time in order to show how confused and unsatisfactory were the opinions of our foremost authorities at the time, and how, if we were to combine all the given statistics, we would come to the conclusion, by pure mathematics, that it is almost impossible for any woman ever to become pregnant. And still, how much at variance are our clinical observations with these theoretical opinions, How very often do we find in women who are constantly giving birth to children the most varied pathological conditions, the very conditions put down by some authors as the chief cause of sterility; and when it comes to the question of the hindrances to the union of spermatozoa and ovum as a cause of sterility, how very often do we find, as an everyday occurrence, that women are becoming pregnant who purposely do everything in their power to prevent pregnancy, and who take every possible means to prevent the ascent of the spermatozoa into the cervix.

Nevertheless, it must be admitted that there is much truth in all these factors being at times the cause of sterility. There is no doubt that the various flexions and versions, inflammations of various portions of the genital tract, as well as perverted secretions do at times become etiological factors in sterility. But we see that the greatest authorities are in doubt, and greatly at variance amongst themselves as to when and where any individual factor or combination of factors comes into play.

Even were we to admit the statistics of any one authority as to the responsibility of any particular organ or function in producing sterility, such statistics would still be of very little practical value in any particular case. If, for instance, we were to admit with Sims that an anteversion is responsible for over forty per cent of sterility due to the female, we would still not know, when confronted in any particular case of sterility with an anterversion, whether this particular uterus belongs to the 40 per cent class which causes sterility, or whether it belongs to the 60 per cent, which has nothing whatever to do with it.

If this were merely an academic question, we could perhaps afford to remain silent, and let each one express his own opinion. But such is not the case. The question is a vital, important, and a most practical one. How many useless operations are performed almost daily because of mistaken etiology. A woman is sterile and a conical shape or other peculiarity of the cervix, for instance, is discovered. The surgeon, after consulting the literature on the subject, finds some authority who states that in his opinion, the peculiarity mentioned is responsible for most of these sterility cases. An operation is thereupon at once resorted to for the relief of this peculiarity.

IT was these confusing theories on the etiology of sterility, as well as the haphazard methods of diagnosis, that induced me to formulate a new method of diagnosis based on scientific principles. Before doing this, however, I had to determine what was the behavior of human spermatozoa in the female genitals in normal and various pathological conditions. As previously mentioned there was no book or pamphlet on the subject as no investigations had been made in a large series of cases anywhere in the world.

As late as June 1910, Natanson and Königstein state in the *Wiener Klinische Wochenschrift* that up to the time of their

writings only two authors (Haussman and Runge) have made observations along these lines. Haussmann's observations are very interesting in view of the fact that they were made so long ago as 1879, but his observations are too few in number; while Runge's observations, though somewhat more numerous, were only made upon one particular point, namely, the influence of effluvium seminis (the flowing out of semen from the vagina after coitus) upon the presence of spermatozoa in the genitals of the female, but no attempt at a systematic investigation of spermatozoa was made. Natanson and Königstein in 1910 also made some observations upon spermatozoa in the female genitals, but these also were made only in one direction, namely, to contradict Runge's theory.

IT is true that we find a few accidental observation on the subject in medical literature. Percy, for instance, far back in 1861, accidentally discovered live spermatozoa in the cervix of the female eight and one-half days after coitus, and Sims, many years ago, pointed out the advantage of looking for spermatozoa in the female genitals rather than in the condom; these, however, were merely accidental finds in a very few cases, and I was the first to start out with the deliberate intention of making a systematic investigation of the behavior of spermatozoa in the female genitals in hundreds of cases.

Patiently for a period of six years I examined the female genitals at various times after coitus in normal and pathological conditions for spermatozoa. The material was gathered mainly from the gynecological clinic of Mt. Sinai Hospital dispensary, where, for a period of over six years, every case of sterility, coming in one of the afternoon classes, was referred to me for study and investigation. I had the patients ordered to my office and did all the investigations personally without any assistance.

I will now describe the Huhner Test and show how all the confusing theories on the etiology of sterility vanish quickly with the employment of this Test.

The Huhner Test

WE order our sterility case to come as soon as possible after coitus. With a glass cannula, to which a bulb or pump is attached, we suck out a small quantity of mucus from the cervix and examine it at once under the microscope. Very often we may see numerous lively spermatozoa after only a few minutes' examination. Yet what a wealth of information is obtained from these few minutes of examination! What do we care whether the cervix is in its normal position or not, or whether we could reason out theoretically that the penis during coitus goes into this cul-de-sac or that, whether the vagina is very short or of excessive width or length—the living spermatozoa on the cervix tell us at once that for that particular penis, the cervix is in the right position to catch the semen. I have seen very many patients who have been advised by their physicians to assume unusual positions during coitus, with a view of aiding the spermatozoa to reach the cervix. This question is solved at once with the Huhner Test. We need not care if the woman tells us that all her husband's semen runs out of her vagina after coitus, and that that is why she does not become pregnant, for we have positive proof before us that, no matter how much runs out, enough spermatozoa have reached the cervix for purposes of impregnation! What need we care if the woman tells us that she cannot become pregnant because the husband suffers from premature ejaculation, for again we have positive proof before us that he can deposit his semen in the right place. Similarly, we need not worry about the various theoretical reasonings quoted in the foregoing pages, such as diminished or absent orgasm on the part of the woman, or the presence of an old epididymitis or stricture or latent gonorrhea, epispadias or hypospadias in the male, for here again we know that the spermatozoa are all right and have reached the cervix alive. Likewise, we need not worry about the possibility of the cervix or vaginal secretions of the female being inimical to the vitality of the spermatozoa, nor need we subject these secretions to microscopical or chemical examinations for this purpose, for again we know that

they are not the cause of the sterility in this particular case. And so, one may go through all the theoretical questions in the etiology of sterility discussed above, and see how frequently they vanish before these few minutes of examination, how they are eliminated by the employment of the Huhner Test.

Now let us suppose, on the other hand, that we find only dead spermatozoa in the cervical mucus, within a few hours after coitus. In that event we order a withdrawal specimen to ascertain whether the spermatozoa came out dead, or whether they were killed later on. If the withdrawal specimen shows nothing but dead spermatozoa, we know at once that the fault is with the husband, and we examine and treat him accordingly.

But if the withdrawal specimen shows lively spermatozoa, we again need not worry about any abnormalities in the position of the cervix or lack of orgasm on the part of the female, or epispadias, hypospadias, stricture or premature ejaculation on the part of the male, or effluvium seminis, or any other condition that is supposed to interfere with the deposit of semen on the cervix, for we know that the semen got there. In such cases we at once make our diagnosis that in this case the sterility is due to vaginal or cervical secretions which are inimical to the vitality of the spermatozoa and we need not subject these secretions to microscopical or chemical examinations for this diagnosis, for we have the physiological proof of the fact right before us.

If no spermatozoa at all are found in the cervical mucus, we know at once, no matter what the condition of the female genitalia is, that the fault lies with the husband even though his withdrawal specimen may be absolutely normal. There are very many conditions in the male in which a withdrawal specimen would be found normal but in which he is nevertheless responsible for the sterility. I need only mention hypospadias and epispadias, where, on account of the abnormal position of the urethral opening, the stream of semen is directed entirely away from the cervix, and, in bad cases, may even be ejaculated entirely outside of the vagina. If the husband suffers from premature ejaculation, his semen will be ejaculated at the commencement of coitus even before the penis has entered the vagina. In either of the cases, just mentioned, the husband would be responsible for the sterility, although a withdrawal specimen would show numerous lively spermatozoa. In certain bad cases of stricture of the urethra, the semen is not at all ejaculated, but dribbles out of the meatus after the penis has resumed the flaccid condition, yet here again, the withdrawal specimen would be all that could be desired. There are many other organic and functional conditions of the male sexual apparatus which would give a normal withdrawal specimen and yet in which not one drop of the semen reaches the cervix. The above illustrations, however, are sufficiently striking to illustrate my meaning. It is in just such cases, also, that the Huhner Test finds one of its greatest fields of usefulness, in placing the responsibility for the sterility upon either the male or female. How many sterile women have had to undergo useless operations and tedious and painful treatment for no other reason than that the withdrawal specimen showed normal semen, and that therefore the husband was all right! That this is not merely an academic question is again shown by my statistics obtained by this method and which have proven the male's responsibility to be more than double the percentage given by those authorities who judge only by the verdict of the withdrawal specimen.

We may also look for spermatozoa as high up as the fundus. In this case we make the test several days after coitus, when, in many cases, those that have been deposited low down in the genital canal have already died. We first, however, take specimens from the cervix, and if we find none or only dead spermatozoa, we may push our canula till the fundus is reached and suck out mucus from it. Any spermatozoa found therein must have come from the fundus and not have been pushed into it from below. Of course, the later after coitus this test is made, the harder it is to find spermatozoa, but if found, it tells us that the spermatozoa have reached the fun-

dus. In some cases we may not find any spermatozoa at all, although the parts are normal. The test therefore is only of value when positive. A recent observer has brought out a method to kill the spermatozoa in the cervix before looking for them in the fundus. In this case the examination may be made early after coitus, but I have no personal experience with this method.

But if we do find live spermatozoa in the fundus, we again note the value of the Huhner Test. We can at once exclude any flexion, no matter how acute, as the cause of the sterility, because we know that the spermatozoa have successfully passed the angle of flexion. Likewise we can also exclude the condition of the uterine endometrium as inimical to the vitality of the spermatozoa. These deductions are of extreme *practical* importance. How many women have been subjected to operations such as dilatation and curettage because an acute anteflexion was found and was theoretically assumed as the cause of the sterility on the theory that the spermatozoa could not reach the fundus? We must, however, consider the possibility that the flexion, though not *mechanically* interfering with the progress of the spermatozoa, may still act deleteriously by altering the genital secretions through insufficient drainage.

There are, at times, other advantages of the Huhner Test. We sometimes find women who do not wish to have their husbands know that they are investigating the cause of the sterility. They may thus come after coitus and, if we find live spermatozoa in the cervix, we do not need to bother about a condom or withdrawal specimen and the husband may remain in ignorance of the visit. Of course, if no or only dead spermatozoa are found, we will have to require a specimen of the husband's semen by the other methods.

Again, there are men who cannot have connection with a condom at all, and there are some who have religious scruples about using it. In all these the value of the Huhner Test is apparent.

A FEW words may not be amiss as to certain points in the technic of the Test.

Of course, the microscope, slides and coverglasses should be in readiness. The instruments should have been sterilized by boiling, but must not be placed in any antiseptic solution, as this might be inimical to the vitality of the spermatozoa. They may, however, be placed on a sterile towel. No lubrication is to be used in inserting the speculum. In case a gynecological examination is to be made at the time, it should be carried out after the Huhner Test is completed.

It is advisable to examine each specimen as soon as procured, and not to take all the specimens at one time and examine them. In many cases the material obtained is quite sticky and dries up rapidly unless examined at once.

Some physicians instruct the patient to put a plug of cotton or tampon in the vagina after coitus, to prevent the seminal fluid from running out while the patient is in route. I do not advise this procedure, for, in the first, place, it is unnecessary, and, in the second place, it sometimes actually absorbs the fluid from the genitals into the cotton, doing actually what it is supposed to prevent. The woman may wear a napkin for aesthetic reasons.

If the precaution is taken to allow the patient to extend her legs while the specimen is being examined, and to resume the gynecological position only for the time another specimen is procured, we will not hear of any complaints about the legs getting tired during the periods of making the Huhner Test.

When we try to get specimens from beyond the cervix or the fundus, we must be very gentle in our manipulations, for in some cases the slightest roughness may produce bleeding or oozing, which may spoil all the specimens and may even prevent us from taking more at that time. If it should be necessary to insert a tenaculum forceps in order to pull the cervix down, we should not fasten the forceps within the cervix or on the upper cervical lip (the woman being in the gynecological position), but fix it in the lower cervical lip, so that if any bleeding results from the tenaculum points, the blood will not run over the os and spoil or interfere with the specimens.

IN conclusion, the advantages of the Huhner Test are in brief as follows:

1. In many cases it at once absolves the husband from any blame. This cannot be attained by any other *single* Test.

2. In combination with a condom or withdrawal specimen, it definitely places the blame on either husband or wife or both as the case may be.

3. It accurately diagnoses the seat of the sterility in most cases (if due to the wife) as either in the vagina, cervix, fundus, or as due to perversions of the various sexual secretions.

4. It gauges the value of our therapeutic methods, thus eliminating much of the guesswork in the treatment of sterility.

5. In many cases it may be employed without the knowledge of the husband and also in cases where the husband cannot or will not use a condom or withdraw.

6. It is simple, harmless, does not interfere with any other manipulation, and in the majority of cases takes up but little time.

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THE FRIGID WIFE

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I

FRIGIDITY is frequently discussed in vague terms. Vague ideas or random facts are not needed, but rather a workaday plan which may be followed through by the physician who sees a large number of these cases and yet does not have available highly specialized means for treatment.

It is the writer's opinion that many cases of frigidity can be successfully treated by a comparatively simple procedure, widely applicable and herein outlined. It is the purpose of this discussion, then, to summarize the opinions on the subject and to give the specific advice, including questions to be asked; to ascertain facts; and to indicate how sex advice may be tactfully presented to the patient—and to outline a method of treatment.

How to obtain the facts correctly and completely, and how to present sex advice in a manner which is tactful and acceptable, involves a technique which should be as carefully planned as the delicate steps in a laparotomy. The indications are just as specific and the results are as gratifying. Happiness and an adjusted life are the criteria of the treatment's success.

Part II, Advice to the Frigid Wife, will appear in the January, 1946, issue of the Medical Times.

The physician's attention is brought to the subject of frigidity by three routes:

1. The subject may be presented as the chief complaint.

2. Psychogenic complaints which may be related to sex life. No investigation of a psychogenic problem is complete without a careful investigation of the sex (and/or emotional) life of the patient.

3. Facts obtained during the course of a complete history. "A complete examination" is an investigation into all of the bodily functions. Therefore, definite, routine questions should be asked concerning marital life and adjustment.

A few definitions will be helpful. There is a wide range of applied meanings to the word, "frigid."

Definitions:

FRIGIDITY: Sexual indifference
Absence of pleasure at coitus
Incapacity of the woman to have vaginal orgasm
Unsatisfactory marital sex life
Lack of sex desire (not lack of orgasm) [Huhner]

Anesthesia Sexualis:
Lack of sensation in genital organs

Libido: Sex desire

Anaphrodism: Absence or loss of sex desire

Dyspareunia: Difficult or painful coitus

Orgasm: Crisis of venereal excitement

Nymphomania: Insane sexual desire in the female

Vaginismus: Painful spasm of the vagina due to local hyperesthesia (mental or perineal)

Impotence: (male)—Lack of reproductive power or virility
(female) Obstruction; preventing entrance of male organ (Huhner)

Coitus: Copulation; sexual intercourse

Masturbation: Self pollution; the causation of orgasm by the hand or by any mechanical friction of the genitalia.

Classification:

FRIGIDITY may be classified or subdivided into the following groups:

1. Total
2. Partial
3. Congenital
4. Acquired

Frequency:

IS frigidity frequently found? Anyone who has asked even the most scant type of questions can affirm that it is. The following are estimates of various investigations concerning the percentage of frigidity.

"Ten percent of normal women never have any pleasure at sexual intercourse. They regard it as a domestic duty—like dish washing—and they find one task no more pleasing than the other." (Wharton)

10% . . . Wharton
75% . . . Knight (little or no pleasure)
35% . . . Greenhill
40% . . . Adler
80% . . . Knopf
66% . . . Huhner (first year of married life)
33% . . . Huhner (later in married life)

The author investigated two groups of patients reporting for various complaints and treatments. The first group were those with some complaint; varying from dysmenorrhea and sterility to fibroids. The second group were patients with no complaint; reporting for normal pregnancy:

Cases with complaints			*Normal pregnancies*	
	No. of cases	%	No. of cases	%
Occurrence, or % of orgasm				
None	68	15.1	13	10.4
Poor (rarely to 25%)	121	26.8	15	12.0
Fair (25-50%)	55	12.2	18	14.4
"Normal" (75-100%)	206	45.7	79	63.2
Total	450		125	

Huhner questioned 289 sterile couples —to determine the sexual urge. He considered coitus less than once a week as hypo-desire; over four times a week as hyper-desire. The following table shows his findings:

Desire	*Husband*	*Wife*
Normal	43%	35.2%
Increased	46%	20.7%
Diminished	10%	44.1%

Importance:

ONE may ask, "What difference does this matter of frigidity make?" Many observers have reported a widespread group of symptoms; varying from marital unhappiness and divorce to suicide. (Huhner)

In a large clinic, 20 per cent to 40 per cent of the frigidity cases were diagnosed as having a serious psychoneurosis; compared with 2 per cent of psychoneurosis found in sexually normal women.

In view of such findings, it is amazing how fragmentary is the information on frigidity which is to be found in the standard textbooks on gynecology. It is mentioned, casually, perhaps, in discussing problems in endocrinology. Is it because the gynecologist considers it entirely a problem for the psychiatrist?

It is the belief of the writer that medical treatment, advice, or an operation to correct difficulties or to improve the sex life is as important to the general well-being of a woman as is surgery to relieve a nagging pain.

An illustration may be helpful: During the routine history on Mrs. S., questions were asked, as usual, concerning her sex life. Her response showed definite interest and she added, "Do you mean that something can be done about it? You are the sixth doctor to whom I have been, hoping that one of them would ask me about this problem. And not one of them mentioned it?"

You may ask, "Why did she not present her problem? Why didn't she put the direct question to one of those doctors?"

To which one could answer, "Should patients be compelled to walk into the physician's office with placards about their necks proclaiming "Appendicitis" . . . "Fibroid" before the diagnosis is suspected?

It is the opinion of the writer that the subject of sex disturbances is not receiving the attention it deserves, either in the reference and textbooks or in the daily investigations of the patient by the physician. When only a few lines—or a single paragraph—are devoted to the subject in the large text of one or more volumes, it is inevitable that a few physicians will look askance at a book which is devoted entirely to the subject.

Etiology:

OVER a period of years, the ideas as to the etiological factors of frigidity have ranged from the hooded clitoris (requiring female circumcision) and constipation ("due to pain and pulling on the nerves") to the modern thought concerning a neurosis (Menninger, Knight, Schimmenti) or endocrine disturbances (Greenblatt, Mortara, Torpin, Lewi).

Findings of the author would seem to indicate that there are many factors which enter into the etiological background. The emotional, psychological, and intellectual factors are prominent. Mental and emotional barriers are more pronounced in certain groups than in others.

The physiological factors have not received adequate attention. Sex is a physical, bodily, carnal function. Those whose lives are dominated by physical exertion and activity are usually more potent sexually than are those whose lives are dominated by intellectual pursuits—with resultant care, stress and tension. The latter group, living lives of mental stress, become more potent sexually after physical activity (golf, hunting, hiking, tennis, etc.).

It may be that the more sedentary life of the average woman is a factor in her relatively lowered libido. Observation seems to indicate that women, as a rule, do not seek physical activity with as much interest as do men. Did you ever hear a woman say she was going out to "work up a sweat"? Men do.

The following is a fairly comprehensive, condensed outline which includes a majority of the factors which have been thought to cause frigidity. The diverging, conflicting theories are stated, quoting and assigning the source—when possible.

I. Organic Factors:

A. Pain: (Dyspareunia—coitus can not be welcomed or tolerated).

1. Hymenal ring; unruptured or painful tag. 2. Inflammation or ulceration; inner or outer genitalia. 3. Disproportion (small or relatively small vagina with nor-

mal or large male organ). 4. Retrodisplaced uterus (with fixation and inflammation). 5. Pelvic inflammation or tumors. 6. Pathology of near-by organs (bladder, urethra, colon [constipation] or rectum).

B. Genital abnormalities (developmental or acquired) 1. Clitoris (small, abnormally located or hooded). 2. Growths preventing contact with clitoris. 3. Infantile genitalia. 4. Absence of vagina or clitoris. 5. Large, relaxed vaginal outlet; inadequate friction and poor contact (usually after childbirth).

II. Functional Factors:

A. Psychological

1. Instruction

a. Early training (childhood)—(told in an attempt to instruct and warn the child; but the bitter words have remained and have not been contradicted by adult experience. Sex ideas have, therefore, unfavorable association). AA. Association of sex organs with excretory organs. BB. "Anything (sexual) is abominable, vile, filthy, detestable, degrading; a necessary evil, legal torture." CC. "Men are cruel brutes; beware of them." DD. Words, attitudes, instructions, from a mother who is dissatisfied with her own marriage. EE. Wife (mother) considered a martyr in the home; to be pitied. FF. "Sex act painful and distasteful." GG. Inferiority of female. Woman's secondary role (Freud). 1.1. This is her one chance (by sex resistance) to compete, resist, and, therefore, equal the man. If she gives in, man will have her completely under his control. So, she reasons, she must continue to resist. 2.2. The little girl's resentment on discovering her lack of external organs. "She has been deprived" — thinks she will later grow externally. Fear, envy, resentment develop into conflicting hates and love toward parents. Distorted sexual theories and neurotic attitudes, symptoms, and personality traits result (Freud).

b. Misinformation (acquired later). AA. Erroneously told that pregnancy can occur only with orgasm. Orgasm is voluntarily suppressed as birth control measure. BB. "The wife is only there for her husband. It means nothing to her and is only to be bravely tolerated as an inconvenience and a nuisance; necessary in marriage."

2. Previous unfavorable sexual experiences and associations. a. Coitus painful at first (making her first sex experience distasteful). b. Memory of unfortunate, regrettable or dreaded experience (rape, attack or threat). c. Unhappy or unsatisfactory previous marriage.

3. Previous (or present) abnormal sex stimulation. (Mental association with other methods. Not excited by normal coitus). a. Masturbation. b. Homosexual. c. Extragenital stimulation. d. Extramarital (with "an excellent lover").

4. Neurosis (a disease, or conflict, of the unconscious). Frigidity is a neurotic symptom which often accompanies all kinds of neuroses. As a neurosis, it is psychological in origin and carries out some unconscious wish or intention of the personality. The whole process is intrinsically unconscious. a. Fears (phobias). AA. Pain — from memory or dread of painful coitus. Previous instruction. BB. Pregnancy. CC. Venereal disease. DD. Punishment (Menninger). Childhood misapprehension of doing wrong; therefore, punish-

ment needed. Excited to peak of pleasure; ego believes itself threatened with alluring temptation. Punishment expected as deserved. EE. Injuring partner.

b. Conflicting loves (1. parental fixation or 2. homosexual).

c. Conflicting hates. AA. We hate what we fear. BB. We hate what we want to revenge. CC. To avenge "mother's suffering". DD. Envy.

d. Biological Conflicts.

5. Emotional. a. Lack of affection for mate: "It's prostitution unless there is affection." "Records in the court house do not make it right — unless there is love." "With women, there must be more than respect or admiration. There must be affection; urge." Economic marriages (introverts). b. Inconsiderate, rough, improper, crude approach by husband (past or present). c. Unsatisfied, dissatisfied, accusing, complaining, ungrateful mate (example: relaxed perineum and vaginal outlet which reduces sensation). The wife feels apologetic and defeated before she begins. d. Mentioning and associating unhappy, unfavorable events or experiences; comparisons, previous "affairs," vulgarity, etc. e. A former or another lover (even if affection not returned).

6. Intellectual type (intellectual frigidity). Voluntary (or involuntary) repression of sex, love or emotional thoughts in favor of intellectual studies. Considered with contempt. Less physical; less voluptuous; less active. Psychic-temperamental factors. Proud of superiority (strong will; boasts of frigidity; considers sex beneath her dignity). Tense, worrying type (in contrast to carefree, happy-go-lucky). Masculine type; not emotional; more stable; practical; strong will power.

B. Neurological:

Anesthesia of vaginal mucosa (Huhner).

C. Endocrine Deficiencies:

Associated with infantile genitalia, menstrual disorders. Sterility. Castration (before puberty). Male sex hormone deficiency (Greenblatt, *et al.*).

D. Physiological: 1. Age—before puberty; old age. 2. Physical apathy. Women who lead inactive, sedentary life; less potent. Very active; more potent (outdoor, robust life). 3. General well-being — important (chronic, wasting diseases; debilitation lowers all bodily activities and functions). 4. Racial—Northern less sexual; Southern races more so; Negro still more so.

E. Sex technique (wife always slower in being aroused for orgasm). 1. Rapid coitus unsatisfactory; inadequate preliminary stimulation; premature ejaculation of husband (may be due to deep urethal inflammation or nervous tension). 2. Improper technique. Selfishness or ignorance on part of husband may cause aversion or hatred. 3. Impotence (husband). 4. Coitus interruptus.

Symptomatology:

FRIGIDITY may be the chief complaint or the finding may come only by direct and even persistent questioning.

There are two general groups of female patients who present sex symptoms or complaints:

1. Those who are not aroused sexually.

2. Those who are aroused but not satisfied (no climax).

The first is usually called lack of libido; the second, lack of orgasm. Some investigators give much time and effort to differentiating these two. While in certain instances a clear line can be drawn, this is not invariably the case.

A comparison may be made to the gastro intestinal system. When does anorexia stop and food aversion start; or aversion stop and nausea start; neusea stop and vomiting start? They are blended and poorly defined

at times. The woman needs help whether or not she can clearly define and limit her symptoms.

There are several stages of sexual (female) stimulation or excitement:

1. Desire
2. Genital moistening
3. Erection and pulsation of the clitoris
4. Involuntary muscular contraction (orgasm)
5. Relaxation; release of tension

Associated Symptoms:

IT has been previously mentioned that in two large clinics, 20 per cent and 40 per cent of the frigid women were found to have definite psychoneuroses; whereas, only 2 per cent of a comparable group of sexually normal women were found to have similar groups of symptoms.

Huhner attributes a large group of general symptoms as possibly the result of frigidity; grouchiness, morning exhaustion (no relief after night's rest), migrating aches and pains, inability or disinclination to perform household duties, backache, increased urinary frequency, leukorrhea, chronic endometritis, hemorrhoids. To this list may be added other symptoms sometimes found: pruritus, pelvic fullness, nervousness, etc.

Diagnosis:

IF the symptom is presented as the chief complaint, the diagnosis is simplified. But even here, many facts are to be determined. The complete diagnosis includes not only the fact of frigidity, but the etiology. Without this, the treatment is difficult and often futile.

Bergler has stated that frigidity is a symptom which often accompanies all kinds of neuroses.

If the complaint is not voluntarily presented and if it remains for the physician to "get it out of the patient," the problem is somewhat complicated.

The writer has found helpful a certain group of questions and certain terminology, to get the patient to give the facts completely and correctly. The questions must be carefully worded; scientifically detailed; calmly (and objectively) presented (preferably from an outlined question form); frequently repeated at different visits (subsequent questioning—after patient's confidence has been won—may bring forth entirely different answers).

Some investigators have stated that the wife frequently says that she has no feeling or response, thinking that this raises her 'prestige;' that she is not supposed to admit sex desire and response.

The writer's experience has been exactly opposite. Frequently, during the first questioning, patients will state that the response is normal and satisfactory; stating, subsequently, that she had never considered herself normal — and had wondered what could be done about it. Repeated inquiries, presenting the same—or different—questions, are helpful; recording, each time, the patient's response.

If the patient returns a vague answer, "I don't know what you mean by "response," or "I suppose so," or "Perhaps," or "How can I tell?", it may be wise to repeat the same questions. Frequently, if the physician will say, "You are withholding something. You do know. Does a child know whether he likes ice cream? Ask him and he will answer with an emphatic 'Yes,' or 'No'. You know whether things are favorable—or whether you consider them normal." The patient then will usually volunteer a more accurate answer.

While it is impossible to list in complete form all the questions to be asked, the following outline should be helpful to those who do not frequently investigate this group of symptoms. Duplicate questions asked together may help prevent confusion and bring out the meaning promptly. The questions may be asked at one or at various, subsequent visits; depending frequently upon the attitude of the patient:

When were you married?

Were you married before?

How many children, miscarriages (dates, complications)?

Is intercourse uncomfortable or painful? (Is it painful when your husband is with you?) Immediately or later; outside or 'up inside'? Now or previously?

Is your response normal at intercourse? (Do you have feeling as a wife should?)

Completely satisfactory?

Do you welcome — or avoid — intercourse?

Have you noticed any change in this from time to time? (After childbirth or an illness? At or near the menstrual cycle?)

How frequently do you have intercourse (once or twice a week?).

Do you—or have you ever—felt that you were doing something wrong? (intercourse).

Do you desire pregnancy now? Later?

Do you dread pregnancy? (Due to fear? Pain?)

Do you notice any difference in intercourse since your children? (larger vaginal outlet; painful; less feeling).

What method of birth control do you use?

Is it satisfactory to both you and your husband?

Were you ever bothered with a tendency to masturbate?

Have you been bothered with any abnormal sex stimulation or excitement?

Have there been any unusual sex fears or repressions?

Did you have any instruction or advice for marriage?

Did you dread marriage?

Was your early training extremely strict?

Do you consider your sex instruction (or knowledge) adequate?

How old is your husband?

Was he previously married?

Are his sex desire and potency normal?

Are there any troubles (quarreling or arguments) between you? About what?

Is affection strong and sustained?

Is there any question as to the fidelity of your husband?

Do you love your husband? Has there been any change in your feeling toward him?

Do you ever have dreams of a sexual nature? How do they differ from actual life? Does orgasm occur?

At coitus: Is there normal lubrication? Do involuntary muscular contractions occur? Do relaxation and sleep follow?

The writer usually completes a general history and examination; including only the first few (5) questions the first visit and following through on subsequent visits —if necessary or advisable.

The results of the physical examination must be considered also. Several pelvic examinations may be required. The uterus may be found in the anterior position on one visit; in the posterior position on another day. This may account for irregular or occasional pain at intercourse.

The interpretation of vaginal outlet findings has been very interesting to the writer. A patient may have been told by several physicians that she does—or does not—need a vaginal repair. Certain medical men assume the attitude that if a woman has had one or more babies, a reasonable amount of vaginal relaxation is to be expected; if this relaxation is not excessive—or if certain expected symptoms are not presented, no treatment should be advised; surgery would be unnecessary and meddlesome. They overlook the fact that the pelvic organs are used hundreds of times more as a sex organ than as a reproductive organ. Backache, pelvic pressure, "dropped out feelings," bladder or bowel complaints, are not the only symptoms to be considered as needing correction.

It appears to the writer that the reasonable and right attitude should be—not only "could the pelvic discomfort be corrected" —but also, "Could this pelvis, especially the vaginal outlet, be improved as a sex organ?" The answer should be clearly and definitely presented to the wife. She should be told that vaginal relaxation reduces the sexual response for both husband and wife. Her answer should be considered in determining the treatment to be advised.

The author has seen many cases with very slight vaginal relaxation (occasionally without childbearing) who were extremely grateful for the functional correction by surgery.

An illustration may be helpful: A young woman came to the office—and her first statement was, "My husband is going to leave me unless something is done to correct my condition." She had borne only one child and the perineal relaxation was considered slight; the obstetrical care good; knowing the husband's attitude toward her, she invariably approached her "marital duty" with a feeling of defeat. Surgery was

advised and the correction was gratefully received; the home made happy.

The above case illustrates the interrelation between functional and organic factors. Prolonged discussions and dream interpretations would not have changed the husband's attitude—which was, in turn, necessary for the wife's happiness.

As physicians, let us come down to earth! A few properly placed sutures will do as much for security and happiness in the home as will prolonged discussions on the sanctity of the marital bond! Let us, then, face our responsibility. There is something that the physician—and the physician alone—can do in correcting the mounting social problem of marital dissatisfaction and divorce. The complete history and sensible interpretation of findings on physical examination are important!

Treatment:

CORRECT treatment depends, naturally, upon a complete diagnosis.

Bergler, Menninger, Liegner, and Schimmenti contend that frigidity is a symptom of a neurosis and that the treatment depends upon the therapy for the neurosis. Various methods, including dream interpretation and Freud's psychoanalysis or hypnosis, are advised.

Greenblatt, Mortara and Torpin consider the problem of endocrine origin; helped by testosterone pellet implantations. They have stated that the estrogens usually fail. Lewi considers ovarian (sexual) hormone the treatment of choice.

Huhner advises galvanic current (negative pole in vagina)—followed by sinusoidal galvanic current; helpful.

Surgical correction of the hooded clitoris by female circumscism has been advised, but the results have usually been found to be disappointing.

Schmidt found yohimbine to be more successful in increasing libido than in producing orgasm.

Hot sitz baths have been found helpful in efforts at preliminary stimulation.

Glycerine-camphor ointment, with a trace of creolin, produces a sensation of heat and is sometimes helpful. The ointment is applied over the area of the clitoris and the vagina.

The writer has found it preferable to consider the possible effect of each or all of the factors, rather than confine the treatment to one limited, "blanket method" to the exclusion of the others.

The elimination of pain, whether vaginal or pelvic, is fundamental.

Each case should be given a detailed discussion on marital advice (to be discussed later) and adequate time for questions from the patient.

Every case should have the various health factors considered and corrected when possible (anemia, dietary deficiencies, hygienic factors, etc.).

If a woman does not have enough energy to carry on her routine, necessary housework, if her chores are burdens to her, any additional exertion should be avoided if possible.

The need for basic, routine, elementary hygiene is at times amazing. The wife frequently arranges and plans the food for her family and completely forgets, overlooks or neglects the necessity for attention to her own diet. Voluntary restrictions for 'slimming routines' may be a factor. Adequate exercise and recreation should be considered. Correction of a lowered metabolism by administration of thyroid is often helpful.

Besides the improvement of general health, tonic treatment and carefully detailed sex advice (to be outlined later), the writer has found the following procedures important:

Correction of pelvic pathology for relief of pain and reconstruction of the vaginal wall (perineal repair) if at all indicated. The importance of this to the wife and to the husband can hardly be exaggerated. Such correction often restores to the wife a sense of security; of being wanted. This is important.

A local (stimulating) ointment has been found to be effective:

Camphor	6%
Menthol	3%
Oleoresin Capsicum	¼%
Petrolatum	Q.S.

The patient is instructed to apply a small amount locally over the clitoris ("the sensitive area") and the vaginal outlet; to mas-

sage it in (gently) for five minutes each night. (If the ointment causes a stinging sensation, instructions are given for heating and diluting with cold cream or petrolatum.) Application of the ointment is to be followed by intercourse when possible. An improved effect has been reported when the ointment was applied from 4 to 5 hours before coitus.

Different types of ointments have been used. The two most satisfactory ones have been the camphor-menthol and the camphor - menthol - capsicum combinations. Some patients prefer the addition of capsicum; others prefer the ointment without capsicum because the burning sensation may be objectionable.

The advantages of the use of ointment as a part of the treatment are:

1. Effectiveness (see chart).

2. Simplicity, applicable by the general practitioner; requires no special training (as psychotherapy).

3. Economical.

4. Auxiliary treatment; used along with psychotherapy and instruction.

5. Adaptable to instructions in technique; confidence held; patients expect something local where response is expected; suited to continued instructions on sex technique; prolonged coitus stimulation helpful.

6. The patient, generally speaking, wants something to take away with her; something to use or to take; something she can do for herself.

7. Stimulation of local nerve endings of the genitalia.

8. Often helps to overcome "vicious circle of continued defeat." "What's the use trying?" If the treatment accomplishes one orgasm, it is worth while. No harm results from continued use—if orgasms do not continue when medication is discontinued.

The test of the results of treatment for any subjective symptom is: "Is the patient satisfied?" "Has the symptom or complaint been corrected?" The result, shown by response of the patient to the treatment in this series, is tabulated:

Results reported from use of ointment:

Number of cases	*% Excellent results*	*% Good*	*% Poor*	*% No Results*
100	40	41	14	5

Ointment effectiveness was determined simply by asking, "How much did the local medicine help you?" Some physicians (psychiatrists) may contend that the real effect was psychological and not pharmacological. Furthermore, each case was given tonics and other medication as well as several sessions on sex advice. All credit is not, therefore, claimed for the ointment method of treatment. But the patient *thinks* the ointment helps. It is one more available, easily used weapon in combating this difficult and discouraging complaint.

A pediatrician acquaintance once noted: "You gynecologists have it much easier. People accept treatment much better when you can do something for them—or give them something to do — besides talking with them."

The ointment is the "something else."

The wise physician always recognizes his limitations and seeks help when needed. The general practitioner who finds an apparently simple conjunctivitis which does not clear up as it should sends the patient to the ophthalmologist. The frigid wife who does not respond to treatment is a grateful patient when she is given the additional opportunity for complete relief.

Prognosis:

THE result of treatment of frigidity depends on how carefully the etiological factors have been sought and how completely and thoroughly the therapy is applied. Neurosis is an evasive condition and treatment is prolonged at times. The writer relies on the positive suggestion method. Instructing the wife as to the importance of sex in normal life; what it can accomplish; repeated illustrations and comparisons. (See subsequent article.) Hoping this in turn will dominate and blot out the previous negative ideas or fears. It also frequently helps the wife to present her problems more clearly.

—Continued on page 367

THE DOCTOR IN OLDE NEW YORK

CULTURAL MEDICINE

THE DOCTOR IN OLDE NEW YORK

A GOOD idea of the costume worn by physicians making their rounds at this time [1745-1800] can be obtained from the following description of the dress of Dr. Charles Frederick Wiesenthal, one of the best known medical teachers of his day, whose medical career was spent in Baltimore. Baltimore physicians, we may remark, were little if any more stylish in this regard than New Yorkers. Dr. Wiesenthal wore "a scarlet cloak, three-cornered hat, blue velvet coat with gold buttons and buff facings, buff vest, lace ruffled shirt, knee breeches, stockings (white or black, sometimes colored), silver shoe buckles, plain white cravat surrounding the neck, wig and cue tied with a black ribbon." . . . It has been said that every man was expected to spend half an hour in the hands of his barber every day at this time, attention being mainly concentrated on his wig. We have changed the end of our attentions to the body in our time. . . .

The first doctor in New York to keep a gig or carriage, if that distinction is worth while chronicling, it shows at least that he was either a successful practitioner or a good advertiser, was Dr. John Charlton, an English surgeon who had been rather prominent at the court of King George III before he came to New York with the British army. He married Mary De Peyster, the daughter of Abraham and Margaret Van Cortlandt De Peyster, and thus became related by marriage to most of the principal families of New York at that time. He is said to have limited his practice almost entirely to his family connections. This would not be difficult in those days of large families and rather close intermarriage as the result of the segregation of this country from Europe to a great extent and the difficulties of travel. More probably is known about Dr. Charlton's personality than about many a physician who made more serious contributions to medicine. He was the society physician of the time, recognized everywhere that he went, a short stout man of florid complexion whom nearly everybody in the city knew by sight. . . .

History of Medicine in New York
James J. Walsh, M.D.

THE FRIGID WIFE

—Continued from page 365

Conclusions:

FRIGIDITY and related sex disorders are frequently found and have many associated symptoms.

Etiological factors are outlined.

Treatment advised:

1. Improve general physical condition.
2. Correct pelvic pathology.
3. Local use of a stimulating ointment.
4. Detailed sex advice (to be explained in subsequent article).

Results are tabulated in accompanying charts.

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(To be continued)

CONTEMPORARY PROGRESS

OPHTHALMOLOGY

The Lability of Ocular Tension; A Test To Determine Individual Variations

S. BLOOMFIELD and R. K. LAMBERT (*Archives of Ophthalmology*, 34:83, August 1945) determined the ocular tension with the tonometer in patients with and without glaucoma simultaneously with the blood pressure and the effect of the cold pressor test. This test caused a rise in blood pressure which was more marked in patients with hypertension than in those with normal blood pressure, whether glaucoma was present or not. It also produced some rise in ocular tension, but the increase was not measurably greater in glaucomatous than in non-glaucomatous eyes The rise in the ocular tension was not proportional to the rise in blood pressure. The effect of simple jugular compression on ocular tension was studied in glaucomatous and non-glaucomatous eyes. While a greater average rise in tension was found in glaucomatous eyes in response to this test, in several eyes in which there was established glaucoma, the rise in ocular tension was below the normal average, indicating that the jugular compression test alone cannot be regarded as of definite diagnostic value. A combined test, using the cold pressor test and jugular compression simultaneously, was then employed. In 71 non-glaucomatous eyes, the rise in ocular tension in response to this test ranged from 1 to 9 mm; only 4 non-glaucomatous eyes showed a rise in tension above 9 mm., and in 3 of these eyes there was intumescent cataract and a shallow anterior chamber. No rise in tension was observed in 2 non-glaucomatous eyes. In 7 eyes with glaucoma simplex in which the ocular tension was below 26 mm. mercury at the time of the test, the ocular tension rose from 9 to 19 mm. In 12 eyes with chronic simple glaucoma in which the ocular tension was 30 mm. or over before the test, the rise in tension was from 8 to 30 mm. It was also noted that with the combined test the absolute height of the ocular tension was increased to above 30 mm. in all the eyes with chronic simple glaucoma, but in only 1 of 77 non-glaucomatous eyes. In 8 patients with unilateral chronic simple glaucoma, the average rise in tension and absolute height of tension did not reach abnormal levels in 6 of the normal eyes, but was higher than the average for the control group. These results with the combined test lead the authors to conclude that this procedure is a satisfactory method of measuring lability of ocular tension and indicates an abnormal lability in glaucomatous eyes. Further studies are being made, with the use of this test, on the effect of various drugs on the lability of ocular tension. Although these studies are not completed, it was found that pilocarpine "in clinical dosage" definitely reduced abnormal lability of tension in 13 eyes with chronic simple glaucoma that had not been operated on. In normal eyes pilocarpine had no demonstrable effect on the lability of ocular tension. In 7 eyes with chronic simple glaucoma in which filtering operations had controlled the ocular tension without further therapy, the combined test showed no abnormal lability of tension. But in 5 eyes in which the operation had not controlled tension, 4 of the eyes showed abnormal lability in response to the test.

COMMENT

Studies of this type require much time and patience. No one can tell in advance where this sort of work may lead. It is hoped that these investigators will continue the work and give us their conclusions.

R.I.L.

The Use of Insulin in the Treatment of Corneal Ulcers

T. R. AYNSLEY (*British Journal of Ophthalmology*, 29:361, July 1945) has found that the usual treatment for corneal ulcers, recently supplemented by the use of

the sulfonamides and penicillin, give satisfactory results in most cases. But in the occasional case that is "troublesome," he has found that insulin promotes more rapid healing. In the first case in which insulin was used, it was instilled as "drops" into the eye; the corneal ulcer in this case had failed to show any response to treatment for 9 days. With the insulin therapy it healed promptly within a few days. Insulin since has been used, both for instillation into the eye and by injection in the treatment of corneal ulcers that did not heal satisfactorily with the usual therapy. If insulin is given by injection, the daily dose is 5 units, and for outpatients, glucose is given with it. In addition to the first case noted, 4 other illustrative cases are reported in which insulin therapy resulted in prompt healing of a corneal ulcer resistant to other forms of therapy. In these cases insulin was given by injection, 3 units daily in the case of the child patient, and 5 units daily in adults. The corneal ulcer healed within three to four days in these cases. The author finds no reports of this use of insulin in ophthalmology. He suggests that either insulin improves the patient's nutrition, or "removes some factor necessary for germ-metabolism," or increases the rate of epithelial proliferation.

COMMENT

This is an original investigation and merits more general trial. A more exact diagnosis than merely "ulcer" is necessary, to enable an evaluation of the treatment.

R.I.L.

Evaluation of Toxoplasmosis Neutralization Test in Cases of Chorioretinitis

J. M. HEIDELMAN (*Archives of Ophthalmology*, 34:28, July 1945) states that toxoplasmosis was first recognized in animals, but in 1939 *Toxoplasma* was found to be a cause of encephalomyelitis and chorioretinitis in newborn infants; later, toxoplasmosis was also demonstrated in older children and adults. Serum tests for neutralizing antibodies were made using two strains of *Toxoplasma*, both from human sources, in 27 cases of congenital chorioretinitis, 97 cases of anterior or posterior uveitis, and in 58 normal persons other than the parents of infants with congenital chorioretinitis. Strong to moderate neutralization was obtained in 63 per cent of the the 27 infants with congenital chorioretinitis and 6 of 7 mothers of children with congenital chorioretinitis. Of 9 patients with congenital chorioretinitis who also showed other evidence of toxoplasmosis only 5 showed neutralizing antibodies. Neutralization tests were positive in 14 per cent of the 97 patients with uveitis, although none showed any clinical evidence of toxoplasmosis; and positive reactions were also obtained in 10 per cent of the 58 normal persons tested. The author is of the opinion that in some of these cases the antibodies were nonspecific. He concludes that the demonstration of neutralizing antibodies in the serum is of moderate diagnostic value only in patients with congenital chorioretinitis, but that a negative test

does not necessarily rule out the possibility of toxoplasmic infection.

COMMENT

There is a tendency to claim that all fundus lesions, of the type generally classed as extrapapillary coloboma, are really due to toxoplasmosis. As embryologists have shown with reasonable certainty that these colobomas develop during the third to sixth month of embryonic life, and few cases are recorded which have been seen to develop during an attack that might be diagnosed as toxoplasmosis, and cases with remnants of the hyaloid artery are also included, it is only fair to point out that the extrapapillary colobomas run in families. Also some colobomas are featured by blood vessels of the choroidal circulation emerging through the defect to continue their courses in the retina, which is not duplicated in disease. It does not seem possible to diagnose a toxoplasmosis as having existed because the patient has lesions of this type unless these lesions have been seen to develop during the course of an undoubted attack of toxoplasmosis. These lesions are undoubtedly prenatal; therefore, if due to toxoplasmosis, the disease ran its course as far as the eyes are concerned in utero.

R.I.L.

Some experiences with Mild Foreign Protein in the Treatment of Chronic Uveitis

B. Y. ALVIS (*Southern Medical Journal*, 38:527, August 1945) reports the use of "mild" foreign protein therapy which is usually not fever producing in certain inflammations of the eye, including some corneal ulcers and uveal tract diseases. The protein employed in the cases reported was 5 per cent casein and 2.5 per cent organic iodine in aqueous solution. This treatment is not effective in all cases, but in some the author has observed so prompt and so definite a response that he is convinced that nonspecific proteins introduced into the tissues evoke some immune reaction that is not dependent upon the production of fever, although foreign protein therapy is generally regarded as a form of fever therapy. Those illustrative cases of uveitis with secondary glaucoma are reported in which the administration of the foreign protein, given by injection in 2 cases and by instillation in one case, resulted in cure of the uveitis and control of the glaucoma with definite improvement in vision in 2 of the 3 cases.

COMMENT

Chronic uveitis is the bane of the oculist's existence. Any form of treatment that promises anything merits careful trial. So many treatments have been offered in the past, to be succeeded in turn by others over the years, that most observers are willing to try any reasonable treatment, nor would they be cast down if they found their results indifferent.

R.I.L.

Binocular and Red-free Ophthalmoscopy

R. I. LLOYD (*American Journal of Ophthalmology*, 28:725, July 1945) finds that only an arc light with liquid filter of copper sulfate and eire-viridin blue gives a satisfactory red-free view of the fundus, and the macula as a rich yellow area; the foveal reflex clear and papillomacular fibers as they arch from the disc to the macular area. For ophthalmoscopic examination by this method, the pupil must be dilated and eye able to withstand a strong light. Choroidal defects become less evident, but details of the retina may be seen and early retinal changes can be visualized. This method is of special value in the diagnosis of such conditions as hereditary macular degeneration, pigmentary retinitis and retinal lesions of congenital syphilis. While the diagnosis can be made with the hand ophthalmoscope, red-free light and the binocular ophthalmoscope will show details not otherwise seen and are of special aid to the artist making fundus sketches. To illustrate the value of these methods the author cites 3 cases, one of which, a case of partial avulsion of the optic nerve due to trauma, has been previously reported. The second case was one of the senile macular degenerations with normal vision; and the third case one of serious hereditary macular degeneration with reduced vision. The appearance of the two fundi was not unlike to the usual ophthalmoscope. The difference in the two conditions is evidenced usually by the difference in visual acuity but red-free light will show the early changes located in the retina at a time when the hand scope shows little difference.

NEUROLOGY

The Importance of Diagnosing Chronic Subdural Hematoma

P. H. HEERSEMA and J. G. GREEMAN (*Medical Clinics of North America*, July 1945:1042) note that the symptoms of chronic subdural hematoma may so closely resemble those of nonsurgical inflammatory and cerebrovascular syndromes that the case may never be brought to the attention of the surgeon unless the diagnostician (the internist and clinical neurologist) is aware of the importance of considering the possibility of this lesion. In 25 consecutive cases of subdural hematoma seen at the Mayo Clinic, headache was the most frequent symptom occurring in 24 cases; 10 patients were in coma on admission; 5 showed confusion and defective memory; 4, excitement; and 3, drowsiness. The history of these cases showed that it was not unusual for a semicomatose state or stupor to develop in a few days or even in a few hours after a defect in memory or in orientation had been noted. In some cases, there was a remission of the earlier symptoms, such as headache, drowsiness, or lapse of memory before the more severe symptoms developed. The physical sign most frequently noted at the time of the initial examination at the Clinic was slow pulse (below 70) in 14 patients; choked disk and hyperreflexia were present in 9 cases each. The duration of symptoms varied from four days to five months, averaging six and a half weeks. The latent period following trauma was difficult to determine. The authors have found that chronic subdural hematoma is more apt to follow a slight injury to the head than a severe injury. They are of the opinion that the diagnosis of chronic subdural hematoma should be considered in cases of chronic lesions of the brain in which there is considerable variation in the signs and symptoms, even if there is no definite history of trauma, especially in middle-aged or elderly patients. Electroencephalography showed unilateral delta waves in 50 per cent of the series reported; generalized or bilateral delta waves in 38 per cent. The electroencephalogram was reported normal in 12 per cent, but the authors believe this to be an error. If subdural hematoma is suspected trephination should be done, as these patients tolerate trephination better than ventriculography; ventriculography may be done subsequently if necessary.

The Relationship of Intracranial Pressure and Presence of Blood in the Cerebrospinal Fluid to the Occurrence of Headaches in Patients with Injuries of the Head

A. P. FRIEDMANN and H. H. MERRITT (*Journal of Nervous and Mental Diseases*, 102:1, July 1945) report 265 cases of acute head injury in which the cerebrospinal fluid pressure was measured immediately after injury. The pressure was less than 160 mm. in 56 per cent, 160 to 120 mm. in 22 per cent, 200-250 mm. in 17 per cent and over 250 mm. in 5 per cent. Blood was present in the cerebrospinal fluid in 33 per cent. There was a high degree of correlation between the presence of abnormalities of the cerebrospinal fluid (increased pressure or blood in the fluid) and the duration of coma and amnesia following the head injury. The incidence of headache in the period immediately after injury was not significantly greater in patients with increased cerebrospinal fluid or blood in the fluid than in those without these abnormalities. In the patients who were followed up after the head injury, headache lasting more than two months occurred in a slightly higher percentage of those with increased cerebrospinal fluid pressure than in those with normal pressure immediately after the injury. The presence of blood in the cerebrospinal fluid after the injury did not influence the incidence of persistent headache. The authors conclude that headache persisting for several months after a head injury cannot be related directly to the pathology of the brain injury as indicated by the cerebrospinal fluid findings.

Degeneration of Peripheral Nerves in Pernicious Anemia

D. B. FOSTER (*Archives of Neurology and Psychiatry*, 54:112, August 1945) notes that signs and symptoms of disease of the peripheral nerves have been associated with subacute combined degeneration in pernicious anemia, but the status of the peripheral nerves in this disease has not been definitely determined. A study of the changes in the peripheral nerves has been made in 4 cases of pernicious anemia at autopsy, and biopsy of a peripheral nerve in a fifth case. In 3 of these cases (including the case in which biopsy was done), the pernicious anemia had been present for several years and had not been treated. In all of these cases, the peripheral nerves showed evidence of degeneration — reduction in myelin sheaths and axis cylinders, degeneration of myelin, increase in Schwann cells and endoneurial connective tissue, axonal reaction changes in the ganglion cells of the posterior root ganglia and degenerative changes in the intramedullary course of afferent posterior root fibers. In the 2 cases in which the pernicious anemia had been treated, both patients were in hematologic remission at the time of death. In one of these patients, the blood counts during the period of illness and treatment were not known; the bone marrow was moderately hyperplastic; the peripheral nerves showed moderately severe degenerative changes. In the other case, the blood values were known to have been normal for eleven years; in this case there were the fewest signs of degeneration of the peripheral nerves. It has been frequently noted that improvement in neurological signs and symptoms is greater under liver therapy when pyramidal tract signs are few or absent, i.e., when symptoms commonly assigned to dysfunction of the posterior column predominate. Since in the latter case, many of the symptoms may be due to degeneration of extramedullary nerve pathways, which have "a powerful regenerative apparatus," it is suggested that the improvement under liver therapy is to be attributed to regeneration of peripheral nerves.

Polycythemia as a Neurosurgical Problem

J. H. DREW and F. C. GRANT (*Archives of Neurology and Psychiatry*, 54:25, July 1945) report one case in which chronic subdural hematoma was associated with polycythemia; there was marked contraction of the visual fields and operation was done in an effort to preserve the patient's vision. The hematoma was found and removed; there was marked improvement in the vision and in other symptoms. The red cell count fell after operation and remained low for about five months, but later there was a tendency to recurrence of the polycythemia. It is difficult to determine in this case whether the hematoma was caused by a minor head injury occurring several months before the onset of symptoms, whether it was the result of hemorrhage due to polycythemia, or whether it was the cause of the polycythemia. In a review of the literature 9 cases were found in which an expanding cranial mass lesion not involving the diencephalon was associated with polycythemia. No "actual cause and effect relationship" between the brain lesions and the polycythemia has been definitely established. The characteristic changes in the ocular fundus in polycythemia consist in dilatation of the retinal veins and retinal cyanosis; blurring of the margins of the optic disk may occur. The authors report a case of polycythemia in which there was definite papilledema of such a degree that the ophthalmologists considered that it could not be due to the polycythemia. A decompression operation was done, but no tumor was found; visual acuity improved somewhat, especially in the left eye. Immediately after operation and for the next eight months, the hemoglobin was within or below normal limits. In a review of the literature the authors find 17 other cases in which there was papilledema in association with polycythemia with no other evidence of the presence of an expanding intracranial mass; in 2 of these cases papilledema was noted only in one eye. In 3 cases operation was done for a suspected intracranial mass lesion but none was found. The authors conclude that the association of a true expanding intracranial

mass lesion with polycythemia is rare; the coincidence of papilledema and polycythemia is somewhat more common; polycythemia, however, must be recognized as a real problem in differential diagnosis in neurosurgery.

Electroencephalographic Findings During and After Acute Encephalitis and Meningo-Encephalitis

I. S. ROSS (*Journal of Nervous and Mental Diseases*, 102:172, August 1945) reports electroencephalographic studies on 4 children during the acute stage of encephalitis and meningo-encephalitis. In all these cases the cerebro-electro-activity was grossly disturbed, the abnormalities consisting of slow, bilaterally synchronous waves of enlarged magnitude. At present the clinical significance of such a generalized increase in amplitude and decrease in frequency in the encephalogram is not known. In the cases studied these electroencephalographic disturbances were not proportionate to the severity of the clinical symptoms. Abnormalities in the electroencephalogram persisted in these cases after the acute phase of the encephalitis. The abnormalities may simulate the dysrhythmia associated with convulsive disorders or those found in brain tumor. They could not be correlated with any clinical symptoms.

✚

General Kirk's Report On World War II Casualties

SIXTY-THREE per cent of the wounds received in World War II were those of the upper and lower extremities, with the lower extremities the heaviest proportion, according to Major General Norman T. Kirk, Surgeon General of the Army.

"There were 207,754 men of the United States Army killed in action and 571,490 wounded," General Kirk stated. "Of those wounded, 363,322 returned to duty after hospitalization and 25,145 died. These figures indicate that the rate of those wounded who died was nearly twice as great in World War I."

Of the 15,000 amputees of World War II, 14,000 needed artificial limbs, 7,000 of whom still remain in general hospitals. The balance either returned to civilian life or remained on duty as instructors for other amputees, the General continued. There have been two quadruple amputations and nine triple amputations recorded in World War II. Of the 14,000 needing prostheses, 95 per cent have lost one arm or leg, and five per cent have suffered two major amputations.

Army Personnel Receive Influenza Inoculations

ALL Army personnel have been inoculated during the months of October and November with a new influenza vaccine as a preventive measure against influenza epidemics, the Office of The Surgeon General has announced.

The vaccine, made by injecting influenza virus into chick embryo, is to be administered in a single injection. Experimentation with the new vaccine was started early in 1943, but sufficient quantities for mass inoculation were not made available until the present year.

20th Exposition of Chemical Industries

AMONG the first of the postwar expositions to be announced is the 20th Exposition of Chemical Industries, which is being organized for the week of February 25 to March 2 in Grand Central Palace, lately occupied as an army induction center. Coming at a time when industries are in the throes of reconversion the exposition will serve as an accelerator, providing opportunities for personal contact and business conferences between principals, technical staffs, manufacturers and professional consultants. Many new products and processes created by the war are expected to come out from under wraps and be applied to civilian operations, now that military needs no longer demand secrecy. Many other new methods and products, shelved during the war years, are emerging as by-products, intended to round out the economic formulas. To the stimulating influence of first-time disclosures will be added the substantial effect of exhibits of improvements by many of the most influential concerns in process equipment and chemical research fields.

Medical BOOK NEWS

Edited by
ALFRED E. SHIPLEY, M.D., Dr. P.H.

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn 16, N. Y.

FRANCIS SYLVIUS
1614 - 1672

Classical Quotations

● I led them by the very hand into the practice of medicine, i.e., I took them daily into the public hospital for the purpose of seeing the sick to whose complaints and other notable symptoms I directed attention, asking immediately afterwards what they had observed in the disorders of the patient; their views as to the causes and proper treatment and the reasons for the same.

FRANCIS SYLVIUS
Epistola Apologetica. 1664.

Ophthalmic Optics

Refraction of the Eye. By Alfred Cowan, M.D. 2nd Edition. Philadelphia, Lea & Febiger, [c. 1945]. 8vo. 278 pages, illustrated. Cloth, $4.75.

THE second edition of this classical work has maintained the high standard and general usefulness of the previous edition. It develops a theory of ophthalmic optics in a logical and lucid manner. Cowan has brought the present edition up to date in technical aspects and made it into a well rounded volume on the refraction of the eye. Drugs and formulae are clear and not too complicated.

The only suggestion the reviewer can make is that the next edition be more detailed in the description of optics and mechanism of such instruments as the slit lamp, the binocular ophthalmoscope, the ophthalmometer and the hand ophthalmoscope. The description of how the evaluation of the ophthalmoscope has surmounted numerous defects would be enlightening and instructive.

JOHN N. EVANS

Tidy's Medicine Revised

A Synopsis of Medicine. By Sir Henry Letheby Tidy, M.D. 8th Edition. Baltimore, The Williams & Wilkins Co., [c. 1945]. 12mo. 1215 pages. Cloth, $6.00.

THE first edition of this book suffered many delays due to World War I but finally did appear in 1920. This last edition, the eighth, also suffered many delays due to World War II. It is during these dates that medicine made remarkable progress. Not all is reflected in the contents of this book.

For example:—An edition dated January 1945 is guilty of a serious omission in failing to mention Penicillin in the treatment of Pneumonia and Cerebrospinal Meningitis. Also, that Primary Atypical Pneumonia does not always run a benign clinical course and terminate in complete recovery without complications.

One finds it difficult to determine just where a work of this type fits in. It is not a text book as the author states in the preface to the first edition; it is too detailed for a compendium and yet it is scarcely more than that. For a rapid "synopsis" of a subject it will do. And perhaps that is all the author set out to accomplish.

S. R. BLATTEIS

Brill's Lectures on Freud

Freud's *Contribution to Psychiatry.* By A. A. Brill, M.D. New York, W. W. Norton & Co., Inc., [c. 1944]. 8vo. 244 pages. Cloth, $2.75.

THE 1943 Salmon lectures were delivered at the N. Y. Academy of Medicine by Dr. A. A. Brill, one of America's fore-

most psychiatrists and the one who established psychoanalysis in this country. These lectures, with much additional material, were published in book form. The volume represents the accumulated material and experience of forty years of active psychiatric and psychoanalytic practice. It graphically describes the status of psychiatry at the turn of the century, the progress made during the ensuing years, and the struggle of the proponents of psychoanalysis in establishing it on a firm scientific basis in this country. The first chapter is devoted to a description of the subject of psychiatry as it was being practiced in the first years of the century, and especially in the N. Y. State Hospital system. References are made to the works and contributions of the then leading world psychiatrists and particularly of the American groups. The following twelve chapters are devoted to the exposition of psychoanalytic theories, the struggles of Freud and his followers, and the contributions made by psychoanalysis to psychiatry in all its aspects.

It is truly amazing how much information is contained in this relatively small volume, how well the author has presented in simple and yet clear terminology the basic principles of psychoanalysis and the growth and development of psychiatry, and how well he illustrates the subject with case histories.

The book is full of personal experiences, wit and humor, and is written in a style that holds the attention of the reader throughout its pages. It is a highly scientific book, that should be of great help to the student of medicine, the general practitioner, and the specialist in any field of medicine or surgery, as it is an illuminating exposition of the basic principles of abnormal human behavior. It is highly recommended not only to medical men but to all others who are interested in human beings and their behavior, be it normal or abnormal.

IRVING J. SANDS

Plastic Surgery of the Face

Facial Prosthesis. By Arthur H. Bulbulian, D.D.S. Philadelphia, Pa., W. B. Saunders Co. [c. 1945]. 8vo. 241 pages, illustrated. Cloth, $5.00.

DR. BULBULIAN'S book is replete with illustrations, formulae, descriptions of technique, and easy reading. Being authoritative, it should be of inestimable value to plastic surgeons and dentists, especially when corrective and reconstructive surgical procedures shall have fallen short of ultimate desired results.

G. FRANK SAMMIS

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

The Sexual Revolution. Toward a Self-Governing Character Structure. By Wilhelm Reich, M.D. Translated by Theodore P. Wolfe, M.D. New York, Orgone Institute Press, [c. 1945]. 8vo. 273 pages, illustrated. Cloth, $3.25.

Character-Analysis. Principles and Technique. For Psychoanalysis in Practice and in Training. By Wilhelm Reich, M.D. Translated by Theodore P. Wolfe, M.D. New York, Orgone Institute Press, [c. 1945]. 8vo. 328 pages, illustrated. Cloth, $4.50.

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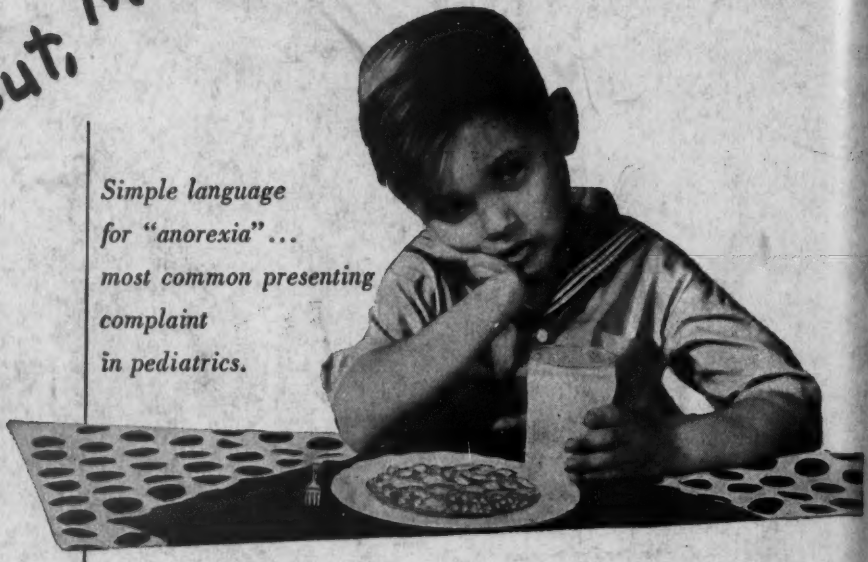

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